

DESCRIPTIONS AND RECORDS OF NEOTROPICAL BATS

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The bats recorded below are from various collections that have come to Field Museum during the past five years. Two of these collections were made by Mr. Ivan T. Sanderson. The first was turned over to us for study by the British Museum (Natural History) and contained material from Dutch Guiana, Haiti, Jamaica, and Trinidad, many of the Trinidad specimens having been collected by the Medical Department of Trinidad. The second was made in Haiti, Jamaica, British Honduras, and Yucatan, and is now on deposit in Field Museum. Specimens from these collections are followed by the initials I.T.S.

The Colombian records represent material sent for identification by Brother Niceforo Maria of the Instituto de La Salle at Bogotá, Colombia, and specimens in his collection are marked N.M. Two records from British Honduras are based on material in the Carnegie Museum, Pittsburgh, Pennsylvania. My thanks are due to these institutions and individuals. The following species are mentioned:

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| <p><i>Amorphochilus schnablii</i> Peters
 <i>Brachyphylla pumila</i> Miller
 <i>Centronycteris maximiliani centralis</i>
 Thomas
 <i>Chiroderma salvini</i> Dobson
 <i>Cormura brevirostris</i> Wagner
 <i>Cynomops planirostris paranus</i> Thomas
 <i>Diclidurus virgo</i> Thomas
 <i>Eptesicus hispaniolae</i> Miller
 <i>Eptesicus melanopterus</i> Jentink
 <i>Furipterus horrens</i> Cuvier
 <i>Glossophaga longirostris longirostris</i>
 Miller
 <i>Histiotus macrotus</i> Poeppig
 <i>Leptonycteris nivalis</i> Saussure
 <i>Lionycteris spurrelli</i> Thomas
 <i>Lonchoglossa caudifera aequatoris</i> Lönn-
 berg
 <i>Lonchoglossa caudifera caudifera</i>
 Geoffroy</p> | <p><i>Lonchophylla mordax</i> Thomas
 <i>Lonchophylla robusta</i> Miller
 <i>Micronycteris schmidtorum</i> Sanborn
 <i>Mimon bennettii</i> Gray
 <i>Molossops temminckii griseiventer</i> subsp.
 nov.
 <i>Myotis nigricans nicholsoni</i> subsp. nov.
 <i>Natalus major</i> Miller
 <i>Natalus stramineus</i> Gray
 <i>Phyllops haitiensis</i> J. A. Allen
 <i>Sphaeronycteris toxophyllum</i> Peters
 <i>Tadarida similis</i> sp. nov.
 <i>Thyroptera tricolor albigula</i> G. M. Allen
 <i>Tonatia amblyotis</i> Wagner
 <i>Tonatia venezuelae</i> Robinson and Lyon
 <i>Trachops coffini</i> Goldman
 <i>Vampyrodes caraccioli</i> Thomas
 <i>Vampyrops fumosus</i> Miller
 <i>Vampyrus spectrum</i> Linnaeus</p> |
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***Cormura brevirostris* Wagner.**

Emballonura brevirostris Wagner, Wiegmann's Arch. Naturg., 9, pt. 1, p. 367, 1843—Marabitanas, Amazonas, Brazil.

Dutch Guiana: Camp One on Coppename River above Kaaimanston, 2 males, 2 females, July 2, 8, 1938 (I.T.S.).

This is the first time this genus has been recorded from Dutch Guiana. The type of *Myropteryx* (*pullus* Miller) came from Dutch Guiana but these specimens do not agree with the characters given for that genus. In fact, they seem to provide further evidence that *Myropteryx* is probably synonymous with *Cormura*.

Measurements.—Forearm, males 46.3–46.5, females 48–48.

Collector's notes.—"Sleeping in hollow fallen tree," and "sleeping in light under eave (projecting end) of fallen tree."

Centronycteris maximiliani centralis Thomas.

Centronycteris centralis Thomas, Ann. Mag. Nat. Hist., (8), 10, p. 638, 1912—Bogava, Chiriquí, Panama.

British Honduras: Double Falls, 1 female, December, 1939 (I.T.S.). "Bole of tree in daylight."

This extends the range of this rare bat northward from Guatemala to British Honduras. The forearm measures 45.2 mm.

Diclidurus virgo Thomas.

Diclidurus virgo Thomas, Ann. Mag. Nat. Hist., (7), 11, p. 377, 1903—Escazu, Costa Rica.

Honduras: Three miles north of Gracias on Rio Grande, 1 male (alc.), December 22, 1937, P. O. McGrew (F.M.).

This is the first record for Honduras of this rare bat, known previously from Guatemala, Costa Rica, and Panama. The forearm measures 64 mm.

Micronycteris schmidtorum Sanborn.

Micronycteris schmidtorum Sanborn, Field Mus. Nat. Hist., Zool. Ser., 20, p. 81, 1935—Bobos, Izabal, Guatemala.

Honduras: Copan, 1 male (alc.), March, 1938, Margaret Ennis (F.M.).

Slightly smaller than the type and topotype from Guatemala, heretofore the only known specimens.

Tonatia amblyotis Wagner.

Phyllostoma amblyotis (Natt., MS.) Wagner, Arch. Naturg., p. 365, 1843—Matto Grosso, Brazil.

British Honduras: Freetown, Sittee River, 1 male, May 15, 1935, Blake and Agostini, Carnegie Mus. No. 10578.

No topotypes of this species are available. Four specimens from Santa Cruz and Sara, Bolivia (recorded as *Chrotopterus auritus* by Sanborn, Ann. Carnegie Mus., 21, p. 175, 1932) have forearms measuring 54.5–55.7; the total length of the skulls is 26.5–27.5.

One female from Tingo Maria, Huánuco, Peru, measures: forearm 54.3, total length of skull 27.8. In a series from Ecuador the maximum and minimum measurements are: forearm 51.9–54; total length of skulls is 26.8–27.2.

The species occurs in Panama, but no Panamanian specimens have been examined. The specimen from British Honduras measures: forearm 50.2, total length of skull 25.7. This is small for the species but only slightly smaller than the minimum for the series examined. Many South American species tend to become smaller in the Central American part of their range.

Tonatia venezuelae Robinson and Lyon.

Lophostoma venezuelae Robinson and Lyon, Proc. U. S. Nat. Mus., 24, p. 154—Macuto, Venezuela.

Trinidad: Aripo, 1 juv., August 24, 1937 (I.T.S.).

This is the first record of this species since the description of the type. It is unfortunate that the specimen is juvenile. The outer upper incisors and the middle lower premolars are still below the gums but can be seen to be present. The forearm measures 34.2, while in the adults of the type series it is 38–40.

Collector's notes.—"Home among cacao."

Mimon bennettii Gray.

Phyllostoma bennettii Gray, Mag. Zool. Bot., 2, p. 488, 1838—South America.

Mexico: Buenavista, Yucatan, 1 male, March, 1898, G. F. Gaumer (F.M.); Tekom, Yucatan, 1 male (alc.), 1 female (alc.), April 15, 28, 1940 (I.T.S.).

There are few recent records of this rare bat, known from Ypanema, São Paulo, Brazil, and from El Hacha, Venezuela. A related species, *M. cozumelae*, occurs on Cozumel Island off the coast of Yucatan. The specimen from Buenavista is figured in Elliot's "Mammals of Middle America and the West Indies," pt. 2, p. 657, 1904, as "*Chrotopterus auritus*."

The external measurements for the two specimens in alcohol are: forearm 55.5–56.8; third finger metacarpal 48.1–50, first phalanx 19.6–19.9, second phalanx 26.3–27.9, third phalanx 12.6–13.2; fourth finger metacarpal 45.9–48.3, first phalanx 15.8–16.8, second phalanx

16.8–18.8; fifth finger metacarpal 50.6–52.2, first phalanx 15.6–15.9, second phalanx 15.2–16.7. Ear from meatus 34.6–35.7. Height of noseleaf 18.4. Tail 21.5–22.8; tibia 23–24.9; foot 14.5–14.6.

Trachops coffini Goldman.

Trachops coffini Goldman, Proc. Biol. Soc. Wash., 38, p. 23, 1925—Guayo, Peten, Guatemala.

British Honduras: Belize, 2 females (1 alc., 1 skull only), October 7, 1939 (I.T.S.).

This is the first record of this bat from British Honduras, and the first time it has been recorded since the original description. The measurements of these specimens are so near those of the type that they do not need to be given.

Vampyrus spectrum Linnaeus.

Vespertilio spectrum Linnaeus, Syst. Nat., ed. 12, p. 46, 1766.

Trinidad: Port of Spain, 1 female, March 10, 1937, 1 skull only, April 7, 1937 (I.T.S.).

Among the many references to this bat, there are no adequate measurements of the wings or the skull.

Measurements.—Forearm 113.3; third finger metacarpal 80.5, first phalanx 45.9, second phalanx 51.5, third phalanx 33.6, tip 9.7; second finger metacarpal 88.2, first phalanx 37, second phalanx 38.6; fifth finger metacarpal 97.3, first phalanx 35.6, second phalanx 35.6. Ear 44. Foot 30.7; tibia 60.5. Skull: greatest length 52.8; condylo-basal length 43.9, interorbital width 7.5, zygomatic width 24, mastoid width 21.5, width of braincase 15.5, upper tooththrow 20.8, width across canines 9.5, across last molars 14.7.

Collector's notes.—"Palm tree;" "among high trees."

Glossophaga longirostris longirostris Miller.

Glossophaga longirostris Miller, Proc. Acad. Nat. Sci. Phila., p. 330, 1898—near Santa Marta, Colombia.

Patos Island: In channel west of Trinidad, 1 male (alc.), 1 female (alc.), 1916, Trinidad Medical Department (F.M.).

This is a further extension of range of this species. The specimens agree with others from western Venezuela.

Lonchophylla mordax Thomas.

Lonchophylla mordax Thomas, Ann. Mag. Nat. Hist., (7), 12, p. 459, 1903—Lamarao, northwest of Bahia, Brazil.

Brazil: Barra, Bahia, 18 males (alc.), February 24, 1914, Robert H. Becker (F.M.).

This species was described by Thomas from eight specimens and has not been recorded since. The specimens here noted might be considered as topotypes; they agree closely with the original description. The forearms measure 33.8–36.7.

***Lonchophylla robusta* Miller.**

Lonchophylla robusta Miller, Proc. U. S. Nat. Mus., 42, p. 23, 1912—Chilibrillo Caves, Panama; Goldman, Smiths. Misc. Coll., 69, No. 5, p. 192, 1920—Panama; G. M. Allen, Journ. Mamm., 16, p. 227, 1935—Panama; Enders, Bull. Mus. Comp. Zool., 78, p. 418, 1935—Panama.

Colombia: San Gil, 1, no sex, June, 1934, Niceforo Maria (N.M.); Sasaima, 1 female (alc.), July 9, 1940, Niceforo Maria (F.M.).

All previously known specimens of this bat have been recorded from Panama, one taken at Cana and others from the Chilibrillo Caves. The specimen from San Gil is smaller, the skull especially, than two from Panama, but the other Colombian specimen does not differ from typical *robusta*.

***Lonchoglossa caudifera caudifera* Geoffroy.**

Glossophaga caudifer Geoffroy, Mem. du Mus., 4, p. 418, 1818—Rio de Janeiro, Brazil.

Venezuela: Cucuta, Santander del Norte, 2 males (alc.), April, 1940—Niceforo Maria (F.M.).

Brazil: Lagoa Santa, Minas Geraes, 4 females (alc.), 1 male (alc.), January 4, 5, 1914—R. H. Becker (F.M.).

Since the review of this genus (Sanborn, Field Mus. Nat. Hist., Zool. Ser., 20, p. 27, 1933), based on eleven specimens from eastern and central Brazil, two specimens have been recorded (Sanborn, Occ. Pap. Mus. Zool. Univ. Mich., 323, p. 3, 1938) from Venezuela. The above series almost doubles the number of specimens formerly available for study. The forearms of those from Venezuela and Brazil measure from 35.5–38.1, a slight increase in size from measurements given before.

***Lonchoglossa caudifera aequatoris* Lönnberg.**

Lonchoglossa wiedi aequatoris Lönnberg, Arkiv Zool., 14, No. 4, p. 65, 1921.

Peru: Vitoc Valley, Prov. Tarma, Dept. Junín, 1 male (alc.), July, 1940—Felix Wytkowski (F.M.).

The forearm of this specimen is 34.2, which is short for typical *caudifera* but about the minimum for *aequatoris*, which heretofore has been recorded only from Ecuador.

Lionycteris spurrelli Thomas.

Lionycteris spurrelli Thomas, Ann. Mag. Nat. Hist., (8), 12, p. 271, 1913—
Condoto, Choco, Colombia.

British Guiana: Itabu Creek Head, Corentyne River, Boundary Camp, 1 male (alc.), 1 female (alc.), September–October, 1938—
E. R. Blake (F.M.).

These specimens are the first to be recorded since the original description of the genus and the species based on an immature specimen. They were taken a great distance east of the type locality but agree with the original description; the skull agrees with a photograph of that of the type.

Measurements (type in parentheses).—Forearm 34.9–36 (33). Skull: greatest length 19.6 (18.7), condylo-basal length 18 (17.5), palatal length 9.2 (8.4), interorbital width 4.1 (3.7), mastoid width 8.2, width of braincase 8.1 (8), upper toothrow 6.2 (6.1), width across canines 3.4, across molars 5 (4.8). External measurements: third finger, metacarpal 35.8–36.2, first phalanx 9.8–9.9, second phalanx 17.4–17.7, third phalanx 7.7–7.8; fourth finger, metacarpal 32.2–32.6, first phalanx 7.6–7.2, second phalanx 12.4–11.6; fifth finger, metacarpal 29.8–29.8, first phalanx 7.5–6.7, second phalanx 9.8–9.6. Ear 12; tail 9.8; tibia 14.1–14.3; calcar 3.6–3.9; height of lancet 6.1–5.6.

Leptonycteris nivalis Saussure.

Ischnoglossa nivalis Saussure, Rev. Mag. Zool., p. 492, pl. 20, figs. 2–2c (animal, noseleaf, skull and teeth), 1860—near snow-line on Mount Orizaba, Vera Cruz, Mexico.

Texas: Mount Emory, Chisos Mountains, Brewster County, 14 males (8 alc.), 44 females (33 alc., 2 skeletons), July 26, 1937, D. D. Davis (F.M.).

Mexico: Cerro Potosi, near La Jolla, Galeana, Nuevo Leon, 17 males (alc.), 64 females (alc.), August 17, 1938, E. J. Koestner (F.M.).

These are the first records for Texas and for this part of Mexico. The bat is known from Arizona south through western and central Mexico to Guatemala. An examination of all available material shows that the above series have much longer wings than those from farther west. Intermediate specimens were found in Jalisco and Michoacan. The type has been lost but, if the figure is accurate, it also had long wings.

Brachyphylla pumila Miller.

Brachyphylla pumila Miller, Proc. Biol. Soc. Wash., 31, p. 39, 1918; Miller, Smiths. Misc. Coll., 81, No. 9, p. 9, 1929; Goodwin, Journ. Mamm., 14, p. 154, 1933.

Haiti: Diquini, December 12, 14, 1937—3 females (one skin with skull), (I.T.S.).

Besides the three subfossil skulls recorded by Miller from Haiti, there have been five male alcoholic specimens described by Goodwin from the Dominican Republic.

In the present specimens the brown tips to the hairs are either very short or absent so that there is a white patch on the nape and one on each side, leaving a brown Y on the back and shoulders. The under parts are gray.

Measurements.—Forearm 55.1–59; third finger, metacarpal 50.3–51.1, first phalanx 15.2–16.4, second phalanx 21.1–22.6, third phalanx 15.6–16.9; fourth finger, metacarpal 47.3–48.2, first phalanx 13.5–15.1, second phalanx 18.1–19; fifth finger, metacarpal 50–51.7, first phalanx 12.1–13.9, second phalanx 13.6–14.6. Ear 19–20; tibia 23.5–24; foot 17.4–17.6. Skull: greatest length 29.3, condylo-basal length 25.3, rostral width 9, interorbital width 6.5, zygomatic width 15.5, mastoid width 13.6, braincase 12.2, upper toothrow 9.9, width across canines 6.4, maxillary width 10.3.

Collector's note.—"Sleeping in limestone cave."

Vampyrops fumosus Miller.

Vampyrops fumosus Miller, Proc. Acad. Nat. Sci. Phila., p. 405, 1902—Purus River, Brazil; Sanborn, Field Mus. Nat. Hist., Zool. Ser., 20, p. 101, 1936—Ecuador.

Peru: Vitoc Valley, Prov. Tarma, Dept. Junín, 1 male, 2 females, October 11, 1940, F. Wytkowski (F.M.).

This is the first record of the species in Peru. The collector records them as being taken "in the ruins of an abandoned huge farm in the forest, Hacienda Santa Ana."

Vampyrodes caraccioli Thomas.

Vampyrodes caracciolae Thomas, Ann. Mag. Nat. Hist., (6), 4, p. 167, 1889—Trinidad.

Vampyrodes caraccioli Thomas, Ann. Mag. Nat. Hist., (6), 11, p. 186, 1893 (change of ending of specific name); Journ. Trinidad Field Nat. Club, 1, p. 6 (reprint), 1893 (mention of second specimen).

Vampyrodes (*Vampyrodes*) *caraccioli* Thomas, Ann. Mag. Nat. Hist., (7), 5, p. 269, 1900.

Vampyrodes caracciolae Miller, Bull. U. S. Nat. Mus., 57, p. 156, 1907.

Vampyroides caraccioli Thomas, Ann. Mag. Nat. Hist., (9), 6, p. 274, 1920—Para, Brazil.

Trinidad: Mount Aripo, 2 males, March 18, 1937 (I.T.S.).

These appear to be the fourth and fifth specimens to be recorded. Unfortunately, one was so badly shot that the front of the face is blown off and the wings are shattered.

Measurements.—Forearm 49.8; third finger, metacarpal 48.8, first phalanx 17.8, second phalanx 27.3, tip 15.5; fourth finger, metacarpal 46.6, first phalanx 14.1, second phalanx 17.2; fifth finger, metacarpal 47.6, first phalanx 11.2, second phalanx 11.8. Tibia 18.9; ear 19. Skull: greatest length 26.8, condylo-basal length 22.6, palatal length from in front of incisors 13.6, rostral width 10.3, interorbital width 6.3, zygomatic width 16.4, mastoid width 13, width of braincase 11.6, upper tooththrow 9.4, width across canines 6.6, across molars 11.5, lower tooththrow 10.6.

Collector's note.—"Sleeping under palm frond."

Chiroderma salvini Dobson.

Chiroderma salvini Dobson, Cat. Chiropt., p. 532, pl. xxiv, figs. 3-3b (skull and teeth), 1878—Costa Rica; Alston, Biol. Cent. Amer. Mamm., p. 49, pl. iv (animal), 1879—Costa Rica; Dobson, Proc. Zool. Soc. Lond., p. 465, 1880—Colombia; Thomas, Ann. Mus. Civ. Stor. Nat. Genova, p. 883, 1891—key; Miller, Proc. U. S. Nat. Mus., 42, p. 26, 1912—Costa Rica (skull meas.); Goldman, Smiths. Misc. Coll., 69, No. 5, p. 203, 1920—Panama.

Honduras: Tapasuna, 10 males (alc.), 12 females (alc.), December 31, 1937–January 1, 1938, P. O. McGrew (F.M.).

In the years since the description of this bat only three specimens have been recorded. Dobson reported one from Colombia in the collection of the Göttingen Museum in 1880; Miller gave skull measurements for a specimen from Costa Rica in 1912; and Goldman listed one record for Panama in 1920. H. Allen's reference appears to have been based on a specimen from Mexico that is probably *isthmicum*.

There is great variation in size in this series from Honduras, some being almost as small as *isthmicum*, which differs by its smaller teeth, proportionately broader skull, and absence of white markings. In a Field Museum specimen of *isthmicum* from Mexico the upper middle incisors are small and light, and their tips diverge, a condition similar to that described for *jesupi* from Colombia, except that the teeth are parallel. The photograph of the type skull of *isthmicum*, however, shows that the tips of the middle incisors converge as in *salvini*.

Chiroderma salvini appears to have the widest range, having been taken from Honduras to Colombia; *C. isthmicum* is known from southern Mexico, Costa Rica, and Panama; and *C. jesupi* from Colombia.

Measurements.—Forearm 46–52.3. Three skulls: greatest length 25.2–27.6, condylo-basal length 24.1–24.9, palatal length 12.8–14.6, interorbital width 5.6–6.3, zygomatic width 15.9–16.8, mastoid width 12.3–13.1, width of braincase 10.4–12.4, upper toothrow 9.3–9.8, width across canines 6–6.2, across molars 11.5–11.8, lower toothrow 10.2–10.7.

Phyllops haitiensis J. A. Allen.

Ardops haitiensis J. A. Allen, Bull. Amer. Mus. Nat. Hist., 24, p. 581, 1908; G. M. Allen, Bull. Mus. Comp. Zool., 54, p. 237, 1911.

Phyllops haitiensis Anthony, Bull. Amer. Mus. Nat. Hist., 37, p. 337, pl. 34, fig. 2 (type skull), 1917; Miller, Proc. Biol. Soc. Wash., 31, p. 39, 1918; Miller, Smiths. Misc. Coll., 81, No. 9, p. 9, 1929; idem, 82, No. 15, p. 6, 1930.

Haiti: Petionville, 2 females, May 25, 1937; Port au Prince, 1 female, December 10, 1937 (I.T.S.).

This species was described from one skin with skull taken at Cana Honda, Dominican Republic. Miller has recorded skulls found in owl pellets, from Port de Paix and Diquini; from cave deposits at St. Michel and the Atalaye plantation, Haiti; and from owl pellets from Monte Culo de Maco, near Constanza, Dominican Republic. There are no records of the bat's being found alive since the description of the species.

The specimens are a little larger than the type but otherwise agree with the short description.

Measurements.—Two adult females and one skull. Forearm 40.6–41.6, pollex 13.6–13.7; third finger, metacarpal 39.3–39.6, first phalanx 15.2–15.6, second phalanx 19.5–19.8, third phalanx with cartilage 13.7–13.8; fourth finger, metacarpal 39.3–39.6, first phalanx 12.4–12.8, second phalanx 12.8–13.7; fifth finger, metacarpal 40.1–40, first phalanx 9.9–10.2, second phalanx 11.8–12.3. Tibia 16.3–17, tibia with foot 26.6–27; ear from meatus 16–17.5; length of tragus 5.3–5.6; width of noseleaf 5.8–6.1; height from base of horseshoe 9.5–9.8. Skull: greatest length 20.5, condylo-basal length 17.6, palatal length 4.8, interorbital width 5.3, intertemporal width 13.7, mastoid width 11.8, braincase 9.8, upper toothrow 5.8, width across canines 5.9, maxillary width (M^1 – M^1) 8.4, lower toothrow 6.2.

Collector's notes.—"Sleeping in mango trees;" "house in town."

Sphaeronycteris toxophyllum Peters.

Sphaeronycteris toxophyllum Peters, Sitzungsber. Akad. Wiss. Berlin, p. 989, 1882—South America.

Colombia: Cucuta, 1 male, February, 1940, Niceforo Maria (N.M.).

Briceño Gabaldon y Hijos collected many of these bats near Merida, Venezuela, between 1904 and 1909, and Rehn (Proc. Acad. Nat. Sci. Phila., p. 259, 1900) recorded a specimen from Pebas, Peru. This is the first record for Colombia but it might be termed a "political" record as Cucuta is very near the border of Venezuela. It is interesting to have another specimen come to light after so many years.

Natalus major Miller.

Natalus major Miller, Proc. Acad. Nat. Sci. Phila., p. 398, 1902—Savaneta, Dominican Republic.

Natalus stramineus major G. M. Allen, Bull. Mus. Comp. Zool., 54, p. 240, 1911.

Haiti: Port au Prince, 1 male, August 1, 1937 (I.T.S.).

This appears to be the first published record of the capture of this bat since the description of the type and paratype. The specimen is slightly larger than the measurements given for the type.

Measurements.—Head and body 44.7; tail 61.8; tibia 25.1. Forearm 43.8; third finger, metacarpal 42.3, first phalanx 18.3, second phalanx 23.9; fourth finger, metacarpal 40.6, first phalanx 10.9, second phalanx 11.8; fifth finger, metacarpal 40.8, first phalanx 10.6, second phalanx 12.6. Ear 17.

Collector's note.—"Flying around house."

Natalus stramineus Gray.

Natalus stramineus Gray, Mag. Zool. Bot., 2, p. 496, 1838; Dobson, Cat. Chiropt., p. 342, pl. 17, fig. 8 (head), 1878—Brazil spec. only; Winge, Mus. Lundii, p. 13, pl. 2, fig. 2 (skull)—1892; Jentink, Notes Leyden Mus., 15, p. 279, 1893—British Guiana; Young, Timehri, (2), 10, p. 44, 1896—British Guiana; Beebe, Zoologica, 2, p. 219, 1919—British Guiana; Shamel, Proc. Biol. Soc. Wash., 41, p. 67, 1928—Brazil (Natal); Hayman, Proc. Agr. Soc. Trinidad and Tobago, 32, p. 313, 1932—Trinidad; Vesey-Fitzgerald, Trop. Agr., 13, p. 161, 1936—Trinidad.

Trinidad: 2 females, Trinidad Medical Department (I.T.S.).

This species was described from a specimen without locality and published references to specimens are still rare. Dobson, Winge, and Shamel have each recorded specimens from Brazil; Jentink's, Young's, and Beebe's references are all to the same specimen from

British Guiana; and Hayman and Vesey-Fitzgerald do not mention any specimens from Trinidad but the text gives the idea that the lists were based in part on the collections of Dr. Urich. Mr. Morrison-Scott and Mr. R. W. Hayman have been kind enough to send the measurements on the type in the British Museum. The specimens from Trinidad agree so closely that they may be confidently referred to *stramineus*. The difference in some of the external measurements is due to the methods used.

The next nearest form is *Natalus dominicensis* Shamel from Dominica, described as larger than *N. stramineus*. A comparison of the measurements shows it to have a longer condylo-basal length, a narrower zygomatic width, and a slightly longer forearm and ear.

Measurements (type in parentheses).—Forearm 39–40.1 (38); third finger, metacarpal 33.7–38.9, first phalanx 15.5–16.1 (15), second phalanx 21–22.6 (16 without cartilage); fourth finger, metacarpal 36.4–38 (33), first phalanx 9.5–9.8 (10), second phalanx 10–10.7 (11); fifth finger, metacarpal 35.7–37.8 (32), first phalanx 9.3–9.7 (10), second phalanx 10.6–11.3 (9). Tibia 20.1–20.8 (19.5); ear 14.5–15.5 (14). Skull: greatest length 16.8 (16.6), condylo-basal length 14.7 (15), interorbital width 3.5 (3.3), zygomatic width 8.5 (8.6), mastoid width 7.4 (7.6), width of braincase 7.9 (8.29), upper toothrow 7.2 (7.15), width across canines 3.9 (4), across molars 5.6 (5.8), lower toothrow 7.6 (7.6), mandibular length 12.5 (12.35).

Furipterus horrens Cuvier.

Furia horrens F. Cuvier, Mem. du Mus., 16, p. 150, 1828—Mana River, French Guiana.

Dutch Guiana: Camp One, Coppename River, above Kaaimanston, 1 male, July 8, 1938 (I.T.S.).

This bat is known from Brazil, British and French Guiana, Trinidad, and Colombia.

Measurements.—Forearm 35.7; third finger, metacarpal 33.4, first phalanx 5, second phalanx 19.9; fourth finger, metacarpal 29.4, first phalanx 6, second phalanx 8.3; fifth finger, metacarpal 29, first phalanx 10.3, second phalanx 4.6. Ear 10; tail 35.8; tibia 15.

Collector's notes.—"Flying in tent at 10:30 A.M. Color—smooth bluish gray fur just tipped paler gray, slightly ochreous. Membranes dark gray. Chin and just above nose reddish brown."

Amorphochilus schnablii Peters.

Amorphochilus schnablii Peters, Monatsber. Akad. Wiss. Berlin, p. 185, pl., figs. 1–10, 1877—Tumbez, Peru.

Peru: Hacienda de la Fuente, Vitor Valley, Arequipa, 12 females (alc.), October 10, 1939; Hacienda Chucarapi, Tambo Valley, Arequipa, 1 female, October 17, 1939, 1 male (alc.), 5 females (alc.), May 17, 1940; Hacienda Santa Maria, Tambo Valley, Arequipa, 23 males (21 alc.), 24 females (20 alc.), May 18, 1940.

Heretofore this bat was known from northern and central Peru, the type being from Tumbes, and it has been recorded from Puna Island, Ecuador, by J. A. Allen. The United States National Museum has three specimens from Piura, Peru, and one from Lima. The Museum of Comparative Zoology also has one from Lima and there is a specimen from there in the museum in Lima.

These specimens from two valleys in the southernmost part of Peru lead one to the conclusion that probably all the cultivated valleys of the arid coast are inhabited by it and possibly it may range farther south into northern Chile.

A few of the specimens were taken in dark wine-storehouses and an irrigation tunnel, but most of them came from an unused sugar-mill.

Measurements.—Forearms 34.2–37.

Thyroptera tricolor albigula G. M. Allen.

Thyroptera tricolor albigula G. M. Allen, Proc. New England Zool. Club, 9, p. 1, 1923—Gutierrez, in mountains about 25 miles inland from Chiriquito, western Panama.

British Honduras: South Stann Creek, 15 miles west of All Pines, 1 male, March 6, 1935 (C.M.).

The forearm of the type, a female, measures 36.6. The specimen from Honduras is smaller, with a forearm of 35. Field Museum has a male and female from Esparta, Costa Rica, with forearms of 34.6 and 32, respectively.

Myotis nigricans nicholsoni subsp. nov.

Type from Hacienda Chucarapi, Tambo Valley, Department of Arequipa, Peru. No. 50783 Field Museum of Natural History. Adult male. Collected October 17, 1939, by C. C. Sanborn. Original No. 2237.

Characters.—A very small, pale race of the arid region of southern Peru. Above, distal third of hairs slightly lighter than the Buffy Brown of Ridgway (1912); below, distal third grayish white, all hairs dark, almost black, for the basal two-thirds. In other characters like *nigricans*. Skull smaller than in *nigricans*, from measurements

about the size of *extremus*; narrower across rostrum and canines proportionately shorter.

Measurements.—Forearm of type 31.6 (others in alcohol 31.1–32.6). Skull of type, greatest length 13.1, condylo-basal length 11.9, rostral width over molars 4.4, interorbital width 3, zygomatic width (about) 6.8, mastoid width 6.5, width of braincase 6.3, upper toothrow 4.6, across canines 2.9, across last molars 4.8, lower toothrow 4.8.

External measurements of female paratype.—Forearm 32.5; third finger, metacarpal 29.4, first phalanx 9.7, second phalanx 8.6, tip 5.9; fourth finger, metacarpal 29, first phalanx 8.1, second phalanx 6.6; fifth finger, metacarpal 27.8, first phalanx 7.1, second phalanx 6.9. Tail 34.8; tibia 14.7; ear 12.

Specimens examined.—Type and one paratype. Two males and one female from Patasagua, a suburb of Arequipa, Dept. of Arequipa, Peru.

Remarks.—This is a pale race living in the semi-arid region of southern Peru from the coast to at least 7,500 feet altitude. It might have been given a geographic name, but almost the same result is obtained by naming it for Dr. Carlos Nicholson of the University of Arequipa, whose name is synonymous with the study of the natural history and geography of the region. Without the help of Dr. Nicholson these bats would not have been secured.

***Eptesicus hispaniolae* Miller.**

Eptesicus hispaniolae Miller, Proc. Biol. Soc. Wash., 31, p. 39, 1918—Constanza, Dominican Republic.

Haiti: Port au Prince, 1 female, August 1, 1937 (I.T.S.).

Jamaica: Chincona, altitude 6,000 feet, 1 male (alc.), 1 female (alc.), August 19, 1939; Sherwood Forest, 1 (alc.), August 29, 1939 (I.T.S.).

This bat has been reported from five localities in Haiti and the Dominican Republic on skulls from owl pellets and fossil remains, but no live specimens have been taken besides the type. This is the first record of it from Jamaica. The forearm of the specimen from Haiti measures 49.7 and in those from Jamaica it is 45.9, 47.8, and 47.9.

***Eptesicus melanopterus* Jentink.**

Vesperus melanopterus Jentink, Notes Leyden Mus., 24, p. 176, 1904—Paramaribo, Dutch Guiana.

E.[ptesicus] melanopterus Thomas, Ann. Mag. Nat. Hist., (9), 5, p. 361, 1920.

Dutch Guiana: Zanderij, adult male and female, 2 juv. males (1 mummy), (I.T.S.).

These appear to be the first specimens recorded since the description of the type, and agree with the description and external measurements. Measurements of the skull have never been published.

Measurements.—Forearm 40.2–41.6; third finger, metacarpal 36.6–37.9, first phalanx 13.5–14, second phalanx 9.6–12.7, tip 7.6–7.2; fourth finger, metacarpal 35.6–37.2, first phalanx 11.5–12.1, second phalanx 9.3–8.9; fifth finger, metacarpal 34.2–34.7, first phalanx 8.8–8.8, second phalanx 6.6–7.6. Ear 14; tail 42.6–38.2; tibia 16.7–16.8. Skull of female: greatest length 16.4, condylo-basal length 14.4, rostral width 6.6, interorbital width 4.1, zygomatic width 11.1, mastoid width 8.5, braincase 7, upper toothrow 5.9, across canines 4.9, maxillary width 7.1.

Histiotus macrotus Poepig.

Nycticeius macrotus Poepig, Reise in Chile, Peru and Amazonströme, 1, p. 451, footnote, 1835—Antuco, Province of Bio-Bio, Chile.

Histiotus macrotus Peters, Monatsber. Akad. Wiss. Berlin, p. 788, pl. opp. p. 792, figs. 2–2e (head, skull, teeth), (1875) 1876—Chile.

Chile: Probably near Santiago, 1 male (alc.), C. S. Reed (F.M.).

Peru: Yunguyo, south end of Lake Titicaca, 1 male, 1 female, March 15, 1940, C. C. Sanborn (F.M.); Hacienda Chucarapi, Tambo Valley, Dept. Arequipa, 5 females (3 alc.), October 15–19, 1939, C. C. Sanborn (F.M.).

These specimens have been referred to *macrotus* although the majority were taken a long way from the type locality. There have been but two specimens of *macrotus* recorded, so little is known about its characters. This series agrees in general with the main character, which is very long ears connected by a low band of skin. This separates these specimens from both *montanus* and *velatus*, and a much shorter palate also distinguishes them from *velatus*.

In 1916 (Ann. Mag. Nat. Hist., (8), 17, p. 225) Thomas described *Histiotus laephotis* from Caiza, southern Bolivia. Its characters are those of *macrotus* which Thomas did not have but he was influenced by the great distance from the type locality of *macrotus* and the difference in the fauna of the two regions. From what is known now of the distribution of the species it is clear that if *laephotis* can be recognized it will be as a subspecies of *macrotus*.

The specimen from Chile is darker than those from Peru but until topotypical *macrotus* from southern Chile is available it seems

best to let all specimens rest under the specific name. The Andes of central and southern Chile are becoming more accessible every year as roads are built in them towards summer resorts, ski shelters, and fishing grounds, so it is probable that typical *macrotus* may be taken at a not too distant time.

The Peruvian specimens from the Tambo Valley were taken on one of the lower floors of an observatory and in a room of the main house of the Hacienda in October. None were seen in May. The two from Lake Titicaca were purchased from an Indian who said he had caught them in his house.

Measurements.—Forearm 47–51.5. Skull: greatest length 17.9–18.9, condylo-basal length 17.6, palatal length 7.8–8.1, interorbital width 43–45, zygomatic width 10.6–10.8, mastoid width 9.2–9.4, width of braincase 8.1–8.4, upper tooththrow 5.8–6.4, width across canines 4.3–4.9, across molars 6.3–6.9. Ears from meatus 31–37; height of tragus 14–16.

***Molossops temminckii griseiventer* subsp. nov.**

Type from Espinal, west of Magdalena River on plains of Tolima, Colombia. No. 51727 Field Museum of Natural History. Adult female in alcohol, skull removed. Collected September 21, 1940, by Brother Niceforo Maria.

Characters.—In general like *temminckii* but white patch on throat larger and rest of under parts gray. Skull longer and slightly broader.

The color above is the same dark brown as in *temminckii* from Brazil and Paraguay, but the white patch on the throat is larger and the hairs are pure white to the roots. The rest of the under parts are gray instead of brown; the hairs have white bases, followed by a gray band, and the tips are again white.

The skull is longer and slightly broader, in comparison appearing larger than the measurements indicate.

Measurements.—Forearm, type and topotype, 31.9, 30.9, 30.7. Skull: greatest length 15.3, 15; condylo-basal length 13.8, 13.5; palatal length 7, 6.7; greatest rostral width 6.6, 6; interorbital width 4.3, 4.9; zygomatic width 9.6, 8.8; mastoid width 8.9, 8.3; width of braincase 7.4, 7.1; upper tooththrow 5.7, 5.5; width across canines 3.9, 3.6; width across molars 6.8, 6.3.

Specimens examined.—Type and male topotype in alcohol in Field Museum collection, and one male, skin and skull, from Honda, collected February, 1932, in collection of Brother Niceforo Maria.

Remarks.—*Molossops temminckii temminckii* is known from northern and central Brazil, Paraguay, and Jujuy and Misiones, Argentina. *M. t. sylvia* Thomas was described from Goya, Corrientes, Argentina, as a paler subspecies. Cabrera described *M. aequatorianus* from Ecuador but it has a much longer forearm (36) and a slightly shorter skull (14.5) than *M. t. griseiventer*.

Cynomops planirostris paranus Thomas.

Molossus planirostris paranus Thomas, Ann. Mag. Nat. Hist., (7), 8, p. 190, 1901—Para, Brazil.

Colombia: Cucuta, 2 males, February, 1939, 1 female, May, 1936, Niceforo Maria.

These bats are referred to this subspecies until toptotypical material is available for comparison. Externally they agree with the original description. The skulls are slightly longer, however, and the distance "across the angular anteorbital ridges" is more than half the basal length as in *planirostris* and not less as in *paranus*. This is a difficult measurement to take accurately and the ridges probably increase with age so that this may prove to be a rather unstable character.

Tadarida similis sp. nov.

Type from Bogotá, Colombia. No. 48560 Field Museum of Natural History. Adult male. Collected August, 1938, by Brother Niceforo Maria. Original No. 4.

Characters.—A member of the *macrotis* group, intermediate in size between *macrotis* and *laticaudata*. Externally similar to *aurispinosa* but slightly smaller and grayish brown instead of red. The hairs are brown and the extreme bases are almost white.

The skull is much as in *laticaudata* and *femorosacca*, but is larger, especially broader, and has heavier teeth.

Measurements.—Forearm 49.5; tibia 15. Skull: greatest length 20.7, condylo-basal length 18.8, palatal length 8.5, interorbital width 3.9, zygomatic width 11.6, mastoid width 10.4, width of braincase 9.3, upper toothrow 7.8, width across canines 4.7, across molars 8.5, lower toothrow 8.5.

Specimens examined.—One, the type.

Remarks.—This is the west coast representative of *Tadarida aurispinosa*, known from one specimen without a skull. Shamel (Proc. U. S. Nat. Mus., 78, p. 12, 1931) listed *aurispinosa* but said he considered it synonymous with *laticaudata* whose range is Brazil

and Paraguay. The discovery of *similis* adds further evidence that there are species intermediate in size between *macrotis* and *laticaudata*. It is unusual that a bat with colonial habits as in most of the free-tailed species should be so rare, but it is only very recently that any colonies of *T. europs* have been discovered.

The *macrotis* group is divided into seven species separated from each other mainly by size, and six of these may be divided into three pairs. *Tadarida europs* of Brazil and Venezuela is about the size of *T. yucatanica* of Yucatan and Guatemala; *T. laticaudata* of southern Brazil and Paraguay is very similar to *T. femorosacca* of Arizona, California, and Mexico; next in size are *T. aurispinosa* and *T. similis* from opposite sides of northern South America, and largest of all is *T. macrotis*, ranging from California and Iowa to south-central Brazil.